

# NEUROtransmitter

A PUBLICATION OF SANTA BARBARA NEUROSCIENCE INSTITUTE AT COTTAGE HEALTH SYSTEM

fall **2012**



Developments in  
**Neurocritical  
Care**

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**Neuroscience  
Nursing**

Our Practice, Programs,  
Outcomes and Future

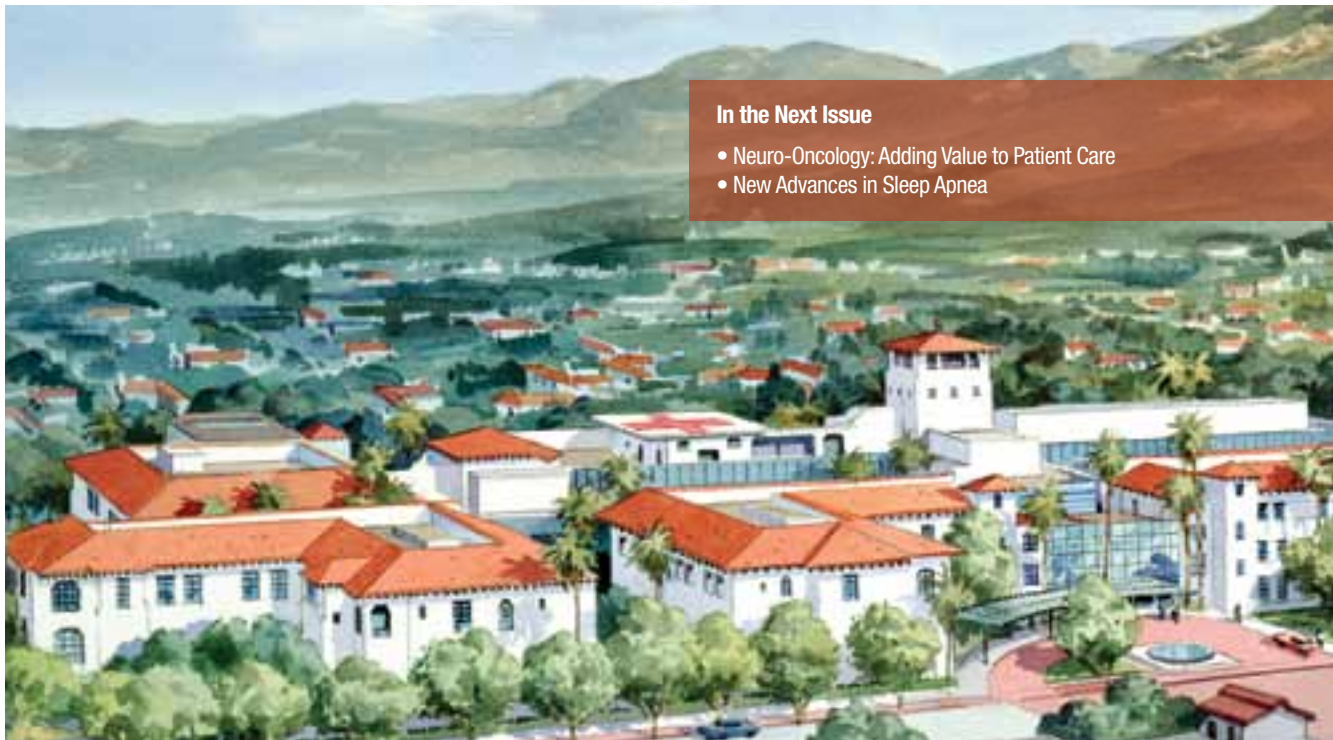
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**Treating  
Chronic Low  
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Time to Refocus?

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### About Santa Barbara Cottage Hospital and Cottage Health System

The not-for-profit Cottage Health System is the parent organization of Santa Barbara Cottage Hospital (and its associated Cottage Children's Hospital and Cottage Rehabilitation Hospital), Santa Ynez Valley Cottage Hospital and Goleta Valley Cottage Hospital.

The Santa Barbara Neuroscience Institute at Cottage Health System is a physician-led initiative established to focus on medical conditions over the full cycle of care. The Institute aims to deliver the highest value to the patient by incorporating best practices, applying resources judiciously, and measuring and reporting outcomes relentlessly.

**On the Cover:** The illustration by Josh Emerson depicts low back pain.







## Dear Colleagues,



All physicians know about “bloodletting.” The practice of phlebotomy began well before Hippocrates, in the 5th century B.C. The practice flourished during the Middle Ages, lasted through the “age of enlightenment” and came to America on the Mayflower. George Washington died with a throat infection in 1799 after being drained of nine pints of blood over 24 hours. Only in the late 19th century was this practice labeled quackery.

Each subsequent generation of physicians, including our own, has been quick to condemn such examples of poorly scrutinized medical empiricism. Despite our self-assurance that we are practicing on a higher plane, we only have to take a cursory look at the recent history of popular medical treatments to debunk this myth. Many mainstream treatments, including pericardial poudrage for angina, internal mammary artery ligation for angina, arthroscopic knee “washout” procedures for knee pain and gastric freezing for peptic ulcers, were all popular and accepted by the establishment until disproven by randomized, controlled trials. Intradiscal heating for low back pain was touted on our evening news, used to treat 400,000 patients and resulted in the physician owners of Oratec selling their company to Smith & Nephew for \$310 million before three randomized controlled trials showed the treatment to be no better than no treatment.

Nortin Hadler MD, an academic rheumatologist at UNC, has written two books that take on our medical establishment and criticize the way we are practicing medicine in this country: *Worried Sick: A Prescription for Health in an Overtreated America* and *Stabbed in the Back: Confronting Back Pain in an Overtreated Society*. He talks about “type II medical malpractice” as doing something very well that is not needed in the first place. Most worrisome are his examination and condemnation of standard therapies that we currently consider among the bedrock treatments for common diseases. He questions the standard use of statins, the definition of hypertension, the use of terms like the “metabolic syndrome.” He examines the conflicting science behind prostate cancer screening and care, and breast cancer screening and treatment. He, I think correctly, states that the “theory that is supported by authority is likely to emerge as the truth of the moment. This has been called **eminence-based medicine**.” I think he would describe himself as a “skeptic fomenting controversy,” and would add that “controversy is the fuel for progress.”

The delivery of health care in this country now costs more than \$2.5 trillion a year, while annual insurance premiums average \$8,500 for every man, woman and child. We are headed over a financial cliff unless we, the physicians, become better stewards of these resources. I am certain that Dr. Hadler would ask that we become skeptics and bring our medical training to bear on redesigning our treatments to better adhere to evidence-based medicine. In those all-too-common cases that lack good evidence to guide us we should usually choose the less expensive treatment option. Continuing to follow the herd will no longer adequately serve all of our patients.

*Sincerely,*

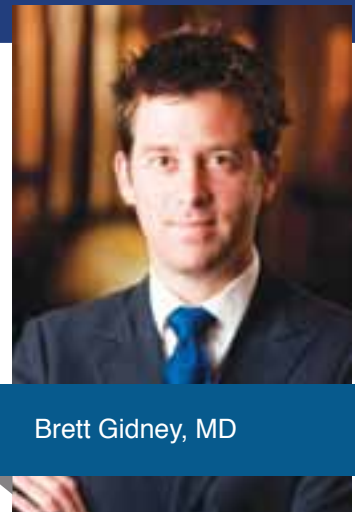
**Thomas H. Jones, MD**

Neurosurgeon and Medical Director  
Santa Barbara Neuroscience Institute

“ We are headed over a financial cliff unless we, the physicians, become better stewards of these resources.”

# Developments in Stroke Prevention

by Brett Gidney, MD, cardiac electrophysiologist



Brett Gidney, MD

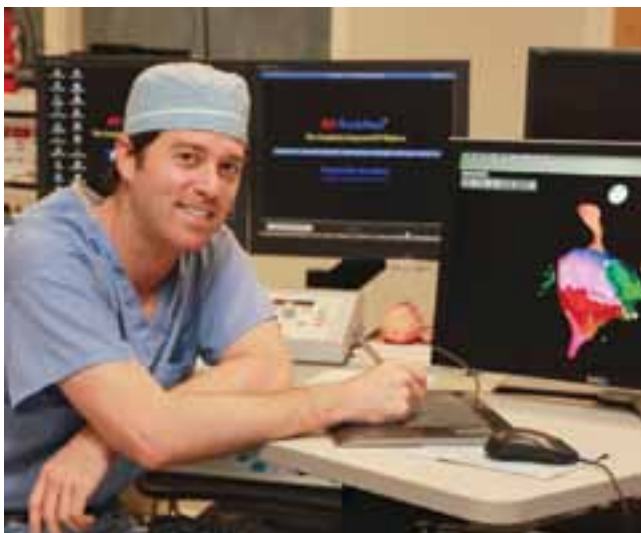
One in five strokes is related to atrial fibrillation (AF) and therefore preventable with vigilance and appropriate referral (CDC data).

Vitamin K antagonists prevent about 64 percent of AF-related thromboemboli, whereas newer drugs like dabigatran, an oral direct thrombin inhibitor, prevent 66 percent. Recent data demonstrate that many of the 25 to 30 percent of strokes thought to be cryptogenic are actually not cryptogenic, but rather due to AF; thus, the CDC data that 20 percent of strokes are due to AF is a significant underestimate. Exciting new therapies beyond anticoagulants are available here on the Central Coast.

Small devices called implantable loop recorders (ILRs) are changing our perception of the prevalence of AF in the stroke population. ILRs are tiny (8cc/17gram) devices that detect AF when placed subcutaneously via a 1.5cm incision during a 15-minute procedure using only local anesthetic. The data an ILR records are wirelessly transmitted to an in-office programmer, and the ILR battery lasts for years. ILRs should be given to patients with cryptogenic stroke, and large studies such as TRENDS (*Stroke*, 2010) found that 28 percent of cryptogenic stroke patients were

found to have AF. Rather than conventional treatment of cryptogenic stroke with only aspirin, these patients with AF detected after what was initially thought to be a cryptogenic stroke are suddenly candidates for highly effective treatment with oral anticoagulation therapy (OAT) i.e. Warfarin. Unfortunately, due to the dramatic effect of aging on stroke risk in AF, many of the patients identified as having high risk of first or recurrent stroke have contraindications to OAT.

New left atrial appendage exclusion devices are available to patients via cardiac electrophysiologists to prevent AF-related stroke without anticoagulation (obviating the need to worry about bleeding). One such device is FDA-approved and called the LARIAT. The device ties off the appendage via a technique similar to pericardiocentesis. It is performed entirely within the cardiac catheterization suite without the need for surgery. The LARIAT is being used at select centers, including Santa Barbara Cottage



Dr. Brett Gidney reviews imaging studies.



An implantable loop recorder is placed subcutaneously.

Hospital, to permanently occlude the atrial appendage. Any patient with AF at risk for thromboembolism who is not a candidate for anticoagulation is eligible. This device results in complete appendage occlusion in 98 percent of patients. A prospective study showed that occluding the atrial appendage with a similar device reduced ischemic stroke by 75 percent (much better than anticoagulation).

AF is epidemic. Once over age 40, a person's lifetime risk of AF is one in four. AF is not just a nuisance that requires rate control. Rather, this disease is interestingly

nuanced. Many, if not all, patients with a cryptogenic stroke should be referred to an AF specialist to verify no underlying AF. Second, we are no longer justified in simply writing off the risk of stroke because of high bleeding risk. From the accident-prone athlete, to the motorcycle enthusiast, to the assisted-living patient with frequent falls, to the cryptogenic stroke patient otherwise consigned to lifelong aspirin therapy, strokes may be assessed using diagnostics like implantable loop recorders and prevented without anticoagulation by using the LARIAT.

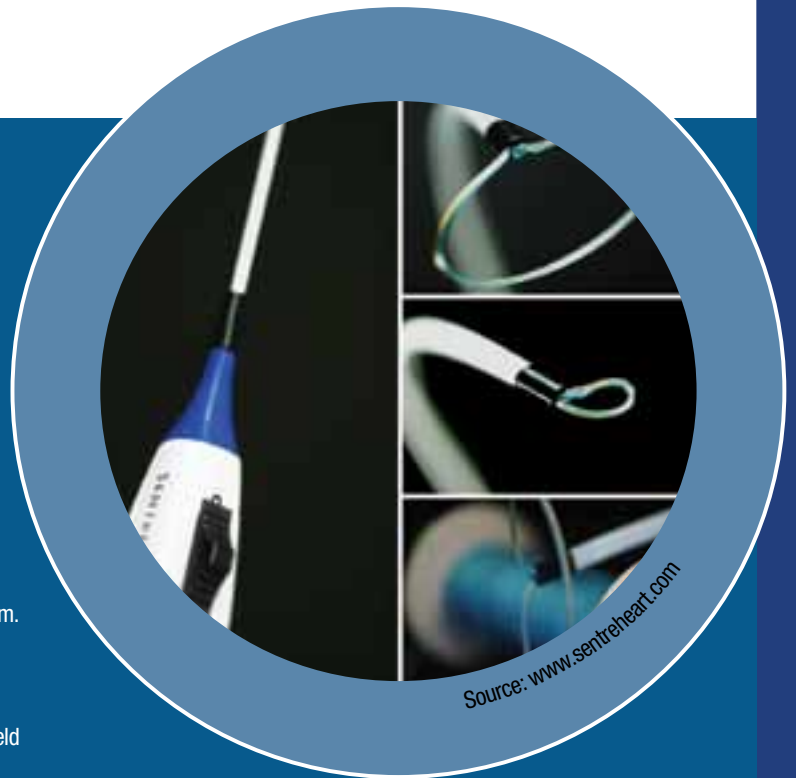
## Case Report:

# Treatment for Atrial Fibrillation

A 76-year-old female is referred for evaluation of paroxysmal AF previously controlled with propafenone. AF episodes last many hours with spontaneous resolution and symptoms that include palpitations and fatigue; the fatigue often lasts many hours following return to normal rhythm. The episodes of palpitations occur daily, often at night after a glass or two of red wine. The AF initially responded to medication with two years of scant symptoms, but crescendo breakthrough with daily episodes despite propafenone prompted referral. In the past, oral anticoagulation was withheld since the patient feared trauma-related bleeding from her daily horseback riding. In fact, she had recent pelvic trauma due to a fall off her horse.

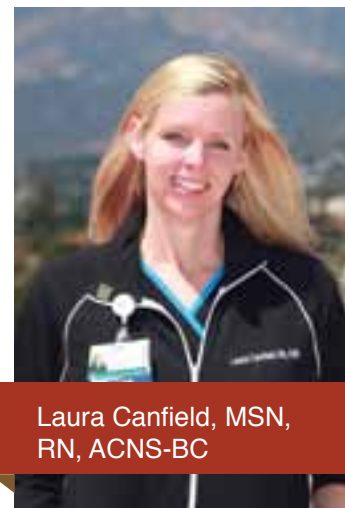
After being told of high stroke risk based on her CHA<sub>2</sub>DS<sub>2</sub>-VASc score above 2, she consents to initiating Coumadin. Symptoms were the primary reason for referral, and she requests ablation to achieve symptom abatement. She understands the expected success rate is nearly 80 percent and 30 percent of patients need a second ablation for optimal outcome. The first ablation is uneventful with successful isolation of her pulmonary veins. Vagal episodes accompany radiofrequency ablation near the Coumadin ridge, the junction between the left superior vein and left atrial appendage, and particular attention is given to this vicinity as these vagal events likely indicate successful modification of the nearby left superior ganglionic plexus, an important mediator of AF. Over the subsequent months, episodes of AF are much better with only several for less than an hour each despite no antiarrhythmic medication. With her goal of complete cure, she undergoes repeat ablation at three months for these continued, albeit improved, symptoms. At nine months after the second

ablation off all drugs except anticoagulation she describes ongoing fear of riding horses due to bleeding risk from anticoagulation. She admits to rare palpitations in the middle of the night that are gone by morning. These episodes, if truly AF, are possibly enough to result in a cerebral vascular accident off OAT. She agrees to have a Reveal loop recorder implanted, and rare symptomatic and asymptomatic episodes of AF lasting for up to 20 minutes are seen on the device memory. Given her high CHA<sub>2</sub>DS<sub>2</sub>-VASc risk score and bleeding risk from horseback riding, she is offered the LARIAT procedure to close her left atrial appendage and eliminate OAT. A CT of her left atrium confirms that her left atrial appendage size and orientation are adequate to close the appendage. An overnight stay at Santa Barbara Cottage Hospital is planned with the expectation to permanently stop anticoagulation one week prior to the procedure.



# Neuroscience Nursing at SBCH: Our Practice, Programs, Outcomes and Future

by Laura Canfield, MSN, RN, ACNS-BC Clinical Nurse Specialist, Neurosciences



Laura Canfield, MSN,  
RN, ACNS-BC

On the heels of Santa Barbara Cottage Hospital's move this February to our new, state-of-the-art hospital, the design of a Neuro Critical Care Unit (NCCU), slated for completion in 2014, is receiving its final touches.

The NCCU will be a 12-bed unit with larger rooms designed to promote better patient recovery through a private, quiet environment and the latest in technological advances.

The new NCCU is designed as a family-friendly environment. The floor plan includes space for sofas that convert to beds so family members can stay with a patient around the clock. A patio will be built off the waiting room so loved ones can enjoy the outdoors without having to leave the unit. Other useful designs featured in the floor plan include a family consult room, a conference room and a private physician dictation space.

"The NCCU is being separated from the current Critical Care Units to provide peace and quiet for our neurological patients, which is consistent with their needs," says Herb Geary, RN, vice president of patient care services and chief nursing officer at Santa Barbara Cottage Hospital. "The isolated space will protect against overstimulation, which can raise intracranial pressure and hinder recovery. Being visitor-friendly will also be a significant draw, especially for loved ones of patients who require extended hospitalization."

It not just the bricks and mortar, or architectural advances, that make a new unit state-of-the-art; it's the nursing care of neuroscience patients.

As a Joint Commission-certified primary stroke center and Level II trauma center, Santa Barbara Cottage Hospital provides registered nurses in neuroscience nursing the opportunity to practice patient-focused, multidisciplinary, technologically advanced care for a spectrum of patients

suffering from neurological diseases across the life span, at all levels of care.

Over the past five years, as the hospital's neuroscience service line has expanded to include complex endovascular interventions for stroke and neurocritical care, the development of specialized care units staffed by expert nurses became vital. This growth required a significant investment in both human and technological capital. Hospital administration, the Cottage Board of Directors and the Santa Barbara Neuroscience Institute (SBNI) have supported the investment in this highly specialized group of direct care nurses.

Nursing has risen to the challenge of caring for this new population by developing a comprehensive, evidence-based-practice educational program that is congruent with adult learning theory and that considers the needs of our multigenerational nursing staff.

Didactic and clinical training for our neuroscience nurses in the emergency department, critical care units and neuro step-down include the Hemispheres® Stroke Competency Series—where our impressive scores meet or exceed all other Joint Commission primary stroke centers as well as hospitals with Magnet® designation in the United States—as well as neuro assessment classes, web-based learning, one-on-one orientation to our critical neuro patients with competency sign off, skills labs and simulation learning.

Working with the newest technologies is a big part of neuroscience nursing. Critical care recently implemented the



**Santa Barbara Cottage Hospital recently received the Get With the Guidelines Stroke Gold Plus Achievement Award. This award means that we have reached an aggressive goal of treating stroke patients with 85 percent or higher compliance to core standard levels of care, as outlined by the American Heart Association/American Stroke Association for 12 consecutive months. In addition, we have demonstrated 75 percent compliance on seven of 10 stroke quality measures during the 12-month period.**





“Looking up and looking forward to the future of neuroscience nursing at Santa Barbara Cottage Hospital”—this says it all. This photograph, featuring members of the neuroscience advanced practice nursing team, won the American Association of Neuroscience Nurses annual photo contest for best representing the spirit of neuroscience nursing in America. The photo reflects our vision and mission to provide superior health care to some of the most vulnerable patients and their families.

use of a portable computed tomography (CT) machine to reduce the risks associated with intrahospital transport and allow the care team the ability to assess images immediately and make treatment decisions at the point of care. Complex neurocritical care monitoring like brain tissue oxygenation, volume-derived hemodynamic monitoring, intracranial pressure monitoring, pharmacologic and ventilator management requires neuroscience nurses to maintain an extensive knowledge base.

Continuing educational opportunities are frequent and accessible. These include the annual Saving the Brain Neuroscience Symposium that features physician and nursing key opinion leaders, as well as the SBNI speaker’s series and support for attendance at national conferences.

In addition to the excellent direct-care nursing staff, SBCH employs four full-time advanced practice registered nurses, a neuroscience clinical nurse specialist, and three acute care nurse practitioners dedicated to the care of neuroscience patients, their families and nursing staff.

Achieving excellence in nurse-sensitive outcome measures and patient satisfaction takes a dedicated team of nurse leaders and direct care nurses committed to best practices. Nursing is empowered by a shared governance structure of decision-making, and evidence-based practice guidelines are used to promote quality care.

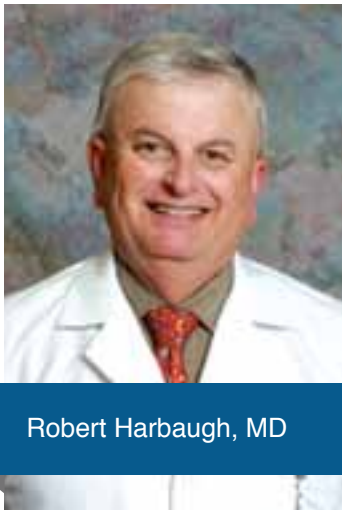
In 2012, SBCH achieved Gold Plus designation for stroke care from Get With The Guidelines® (GWTG), a program that helps ensure consistent application of the most recent American Heart Association/American Stroke Association scientific guidelines for patient treatment. The Gold award recognizes a 12-month period

of 85 percent or greater compliance with the requirements in the GWTG program. These include aggressive use of medications such as tPA, antithrombotic, anticoagulation therapy, deep venous thrombosis prophylaxis, cholesterol-reducing drugs and smoking cessation. Nurse-sensitive measures like patient education on stroke risk factors and dysphagia screening upon admission are in the 98th percentile. Our stroke program’s nursing satisfaction mean score is 88 percent, and Press Ganey scores for our neurology unit are 98 percent year-to-date.

An annual tradition was started this year with a series of events to celebrate Neuroscience Nurses Week, held the third week of May. Each day had an event; case studies were presented, the neuroscience nurse practitioners gave talks on neurological assessment and neurological anatomy. Past patients and families returned to SBCH to share stories of their acute and rehabilitation hospitalizations and show their gratitude for the nursing care that affected their recoveries and contributed to their quality of life.

The future is bright for neuroscience nursing at Cottage: a motivated group of neurology RNs are preparing for board certification. The Certified Neuroscience Registered Nurse® (CNRN) credential formally recognizes the attainment and demonstration of a unique body of knowledge necessary for the practice of neuroscience nursing. CNRN certification is a nationally accepted mark of excellence, and there is evidence that patient outcomes and nurse satisfaction are improved when a RN is nationally certified in his or her speciality. Encouraging national certification of direct care nurses also aligns with the Magnet model’s foundations of transformational leadership and structural empowerment. As SBCH works to submit its Magnet application later this year, the commitment to nurses and nursing practice has never been greater.

## 8 Frontotemporal Dementia



Robert Harbaugh, MD



# Clinical Response to FRONTOTEMPORAL DEMENTIA

by R. D. Harbaugh, MD

Frontotemporal dementia (FTD) is the term used to describe a clinically heterogeneous group of patients with frontotemporal dominant neurodegeneration.

The FTD syndromes (several clinical and pathogenetic subtypes with shared features) can be characterized primarily as the “behavioral” dementias. The FTD-related clinical syndromes are a leading cause of dementia in patients under the age of 70 years, with the mean age of onset in the sixth decade. FTD is nearly as common as Alzheimer’s disease (AD) in dementia patients under the age of 70 years and is more common in patients under the age of 60 years. FTD constitutes approximately 5 percent of all the dementias.

The main subtypes of FTD include 1) a behavioral syndrome called behavioral variant FTD (bvFTD), which is exemplified in our case and which is the most common; 2) a nonfluent/agrammatic (meaning impairment in specific word utilization) variant known as aphasia primary progressive aphasia syndrome (nfvPPA); and 3) a semantic variant (meaning impaired comprehension of words) known as primary progressive aphasia syndrome (svPPA). These later

disorders overlap with a disorder previously known as Pick’s disease.

These subtypes are connected by very complex clinical and, more importantly, pathological underpinnings, but also share substantial overlaps which, in reality, create a continuum of disease expression, especially as the disorders unfold over time.

This article will focus upon the behavioral variant. This area of clinical neuroscience is among the most complicated and dynamic arenas in all of neuroscience.

### **SYMPTOMS AND ETIOLOGY**

The frontal lobes in *Homo sapiens* act to create truly advanced “social” animals; they shape goal-directed behaviors, motivation and our innate awareness of ourselves and those around us. The first symptoms in bvFTD are variable although most patients show dramatic changes in executive



## Case Report:

# Frontotemporal Dementia

control (planning/executing adaptive behaviors) and/or personality.

Characteristic behaviors are an acquired change in social interactions, which tend to exclude the well being of those around the affected person (manifested as indifference, lack of concern and/or loss of insight). Antisocial behaviors—including theft, reckless driving and indecent exposure—can lead the FTD patient to be arrested. Some patients become socially withdrawn, leading to a misdiagnosis of depression. Apathy, overeating, disinhibition, hypersexuality and repetitive compulsive behaviors are common early features driven by degeneration of specific areas of the brain which modulate these activities. Addiction-related behaviors—including alcoholism, suicide, schizophrenia, sociopathy and bipolar disorder—are common initial diagnoses for individuals with FTD.

The bvFTDs are among the most challenging, and to a certain extent, devastating degenerative disorders seen on a routine basis by specialists. Many patients with bvFTD are considered initially to have purely psychiatric disorders, as basic cognitive skills may be well preserved in the first few years. Some individuals tragically end up within the legal system (e.g. incarceration) due to socially unacceptable behaviors. Other domains of the mind, such as cognitive capacities (e.g. language, memory, visuospatial functioning, etc.), invariably become impaired as the disorder progresses.

### DIAGNOSIS AND TREATMENT

In experienced hands, characteristic bvFTD is readily diagnosed by routine clinical methods, including detailed neuropsychological testing. As the disorder progresses, brain imaging demonstrates the expected loss of tissue in the affected regions. Genetic testing is available on a research basis. Unfortunately, as with all the primary degenerative dementias, no disease-modifying interventions have been developed to date. However, a select number of medications (in particular the SSRI-class agents) can modulate unacceptable behaviors.

The FTD group of disorders, although uncommon and not a major health problem numerically in relationship to AD and other more common forms of dementia, have created a rapidly evolving scientific test-bed for understanding the basis of acquired brain degeneration. Researchers have now discovered that related (connected) brain circuits appear to “degenerate” in concert. The same processes we see in normal early brain development demonstrate a reverse process or “unraveling” due to the accumulation of misfolded, native structural or signaling proteins within specific nerve cells.

It now appears that all the common dementias share this property. Thus, developments in one research arena will undoubtedly impact another. In a quiet way, the very complex arena of the FTDs may unlock keys to combating the impending tsunami of dementias, which will inevitably descend upon our long-living human populations. From a basic research standpoint, understanding the most unique and complex part of our own legacy, the frontal lobes, remains a rewarding endeavor in itself.

A 58-year-old, right-handed, white, married father of two, a disabled CPA, was evaluated neurologically for a 2.5-year history of progressive, acquired behavioral and personality changes.

The patient describes no family history of significant neurological disorders. He was in his usual state of good health until approximately 2 years prior to his first medical contact, when co-workers approached his family about subtle but progressive changes involving his work-related aberrant behaviors. Whereas he had always been “detail-oriented,” he was making careless errors, leading to client complaints about sloppy work. When confronted about these observations, the patient simply ignored the requests, making uncharacteristic profane statements.

Whereas he had been a devoted family man who participated in his local church, he now became disinterested in family and friends, spending time watching television and becoming entranced with simple household items (e.g. would pick up a spoon and manipulate it for long periods of time).

He was arrested for shoplifting and placed upon administrative leave by his employer. When confronted, the patient simply shrugged his shoulders and seemed to express a profound lack of concern, behavior in direct contrast to his lifelong personality style of compliance with social norms (his friends and family commented that this was “totally out of character”).

His wife sought counseling and forced her spouse to see a mental health specialist. Several antidepressants had no effect upon his state of being and functionality. Finally, when he was found to be compulsively putting objects into his mouth, his physicians recognized the possibility of a neurological disorder.

When seen neurologically, the patient was unkempt, distracted and poorly cooperative (disinterested). The basic neurologic/physical exam was otherwise unremarkable. With vigorous coaching, he was able to complete essential elements of a bedside mental status exam without signs of major cognitive impairment. Of interest, his teenage son had first expressed concern that “maybe something is wrong with Dad’s brain.” The patient and family denied any other systemic or neurologic symptoms of consequence, and the patient was on no medications when first seen.

Neuropsychological testing confirmed definite impairment in frontal lobe functioning, with suggestions of mild language impairment (difficulty comprehending complex sentences and naming objects). MRI brain scan was unremarkable with the exception of mild but distinct atrophy for age of the lateral aspects of both frontal lobes, symmetrically. Brain PET scanning confirmed the presence of relative bifrontal hypometabolism.

Having met the accepted criteria for diagnosis of the behavioral variant of frontotemporal dementia (bvFTD), the patient was placed on permanent medical disability and has moved into a residential care facility where high-dose selective serotonin-reuptake inhibitor (SSRI) treatment has markedly lessened his socially inappropriate behaviors (e.g. grabbing others, incessant profanity and resistance to care). He is being referred to a tertiary care center for further study and genotyping at the request of his family and medical professionals.

# Treating Chronic Low Back Pain: Time to Refocus?

by Thomas H. Jones, MD, Neurosurgeon



Epidemiologic studies of low back pain (LBP) have consistently shown that, in the United States, there is a lifetime prevalence of 70 percent and an incidence of up to 20 percent. Studies have also shown that 90 percent of patients with acute LBP will get better, and generally within six weeks.

What distinguishes the 10 percent of our LBP population who develop chronic LBP is controversial. Since the first description of lumbar disc herniations by Mixter and Barr in 1934, many physicians, surgeons in particular, have accepted the structural etiologies of pain. They point to magnetic resonance imaging (MRI) findings such as “bulging discs, degenerative joints, stenosis, flat backs, etc.” Because of this mindset, they tend to focus their treatment recommendations on physical therapy, injections and operations.

Since the 1950s, lumbar fusions, increasingly employing instrumentation, have been en vogue. Screening procedures have included provocative discograms and “pain blocks.” Adding to the confusion, the medical literature often conflates the causes of axial LBP with those of neurological syndromes of lumbar etiology.

A rapidly expanding number of studies now suggest that it may be time to refocus our attention on the entire patient rather than just his/her lumbar MRI scans. To quote Sir William Osler: “It is much better to know what sort of patient has a disease rather than what sort of disease a patient has.”

Study after study reminds us that lumbar MRI scans cannot predict LBP

in more than 85 percent of our patients with chronic axial LBP. A recent study suggested that obtaining MRI scans early in a patient’s clinical course led to increased invasiveness of care, more expensive care and, surprisingly, worse outcomes. Three prospective, randomized controlled trials comparing outcomes of LBP in fusion versus conservative treatment groups since 2001 have failed to show a clear advantage of surgery. All studies show that routine use of spine X-rays conveys more risk than benefit. And yet, in spite of these reports, we in the United States continue to practice the most aggressive and expensive spine care in the world. Deyo studied Medicare discharge data 2002 to 2007 and reported that fusion rates increased by a multiple of 15, leading to life-threatening complications in 8.6 percent and a 30-day readmission rate of 13 percent. Alarming, Medicare expenditures for epidural steroid injection rose 629 percent, opioid prescription use was up 423 percent and ordering of MRI scans up 307 percent. Importantly, outcomes have not been shown to be better. In fact, the Dartmouth Atlas Medicare database findings suggest that increased intensity of care has been associated with worse outcomes. We are

now spending up to \$100 billion a year in the United States for spine care. That approaches the total healthcare expenditures for Canada!

For more than 50 years, we have been told that one of the best predictors of care outcomes in patients with chronic axial LBP are psychosocial factors (e.g., alcoholism, early life abuse, depression, multifocal pain, job dissatisfaction, etc.). Now functional brain mapping has actually begun to show that chronic pain is associated with certain brain activity changes and maybe even cell death. A recent meta-analysis of 22 trials published in *Health-Psychology* (2007) by Kearns strongly suggested that cognitive retraining had major impacts on chronic pain complaints. In other words, chronic LBP may be more likely a brain than a back disorder.

All the data suggests treating chronic axial LBP is complicated and that it is generally not a surgical disease. We, as a society, will probably do best by decreasing our reliance on high technology medicine in this subgroup of patients. Encouraging healthy exercise, aggressively treating psychosocial risk factors and minimizing habituating drugs seems to be generally the best course of action.

## CASE REPORT: Recurrent Severe Low Back Pain

A male patient (born in Massachusetts in 1917) experienced a series of severe intestinal ailments, infections, and other illnesses during childhood that led to his being considered sickly by his immediate family. Recurring symptoms included fatigue, poor weight gain, abdominal pain and diarrhea.

His family took him for evaluation by physicians at major medical centers, including Harvard and Yale. In 1934, when he was 17, he was sent to the Mayo Clinic, where he was diagnosed with colitis. During his mid-20s, he began to experience severe low back pain. Before the age of 30, he underwent the first of several surgeries on his back. In 1947, he was diagnosed with Addison's disease, indicating adrenal insufficiency and was put on a daily regimen of corticosteroids that continued for life. One side effect of this medication, susceptibility to infection, led to multiple courses of antibiotics to treat conditions of the skin, urinary tract and respiratory system.

Low back pain continued, growing progressively more severe. He developed compression fractures and osteoporosis, resulting in an impaired gait. At age 37, he underwent surgery at Cornell that involved screwing in a metal plate to stabilize the lumbar spine. Within a year, recurrent infections led to the removal of the hardware, which was replaced with bone grafts.

Despite chronic low back pain and abdominal problems, multiple hospitalizations, use of braces and what eventually became a cornucopia of pharmaceuticals (antispasmodics, muscle relaxants, pain medications, testosterone, sleep aids, and multiple daily trigger point injections, as well as the cortisone), he was an athlete through college, served as a military officer during World War II, and was elected president of the United States in 1960.

Although by today's standards, John F. Kennedy's medical condition and pain medication usage would have qualified him for federal disability benefits, the public image he maintained during his presidency was one of being youthful and active. In private, however, he used crutches, walked sideways down stairs and was unable to bend down. Current treatment recommendations for a patient in his condition would more likely utilize non-steroidal anti-inflammatory agents and strengthening exercises than surgery, bracing and trigger-point injections.

President Kennedy's complex medical history was made public in 2002. For a more detailed physician's perspective on his case, see *Stabbed in the Back: Confronting Back Pain in an Overtreated Society* by Nortin Hadler, MD.





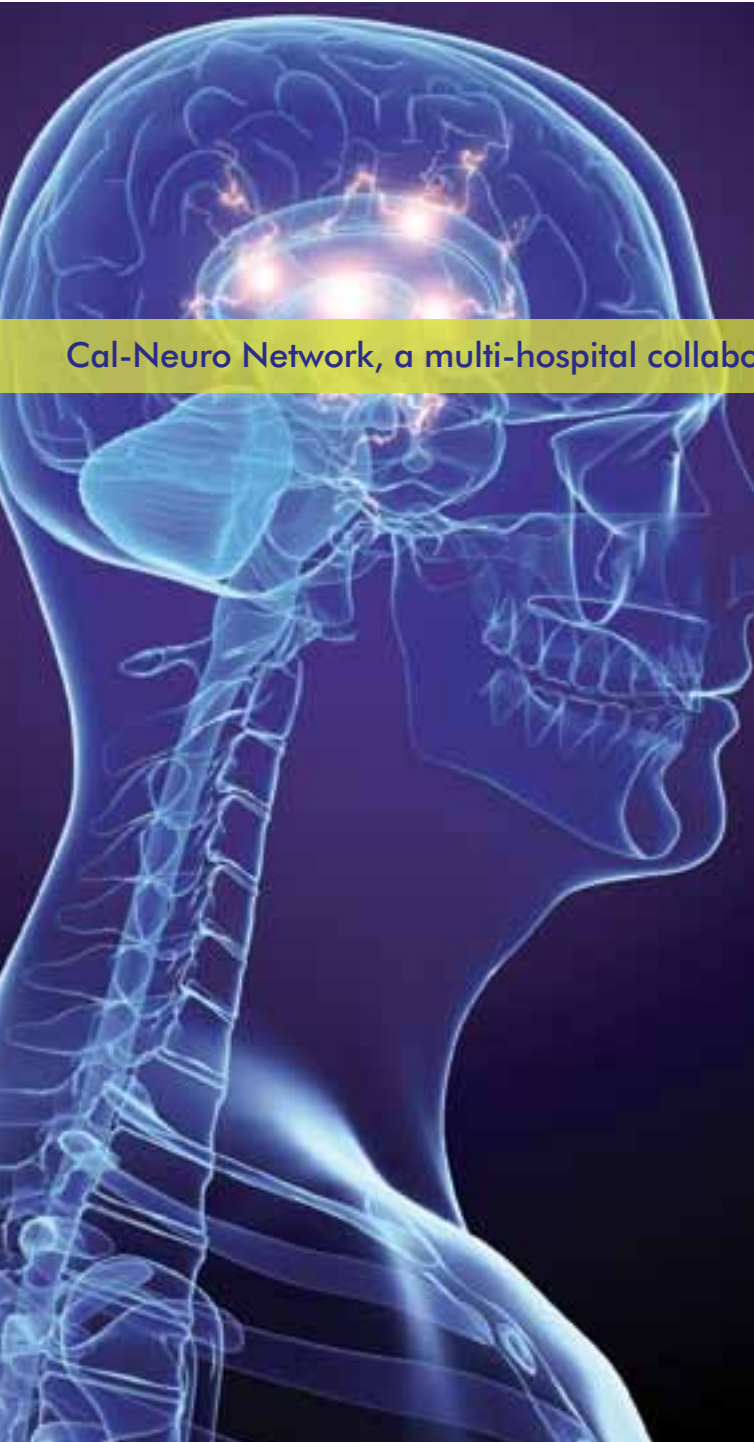


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# Cal-Neuro NETWORK

Cal-Neuro Network, a multi-hospital collaborative established by Santa Barbara Cottage Hospital

**What is the Cal-Neuro Network?** The Cal-Neuro Network is a multi-hospital collaborative established by Santa Barbara Cottage Hospital (SBCH) for the care and advanced treatment of neurologic emergencies. As a Certified Stroke Center, SBCH has formed this network to offer its resources to patients and physicians in the surrounding communities and beyond.

**Why have a network at all?** While the significant investments in neuroscience technology and human resources are not feasible for all hospitals, every patient should have access to the highest levels of care possible.

**When do I access the network?** It is important to note that the network does not take the place of neuroscience resources in your local hospitals. The network is to be contacted only after consultation with your local on-call neurologist and/or local neurosurgeon.

**How do I learn more?** Please contact Gary Milgram, Service Line Director at [gmilgram@sbch.org](mailto:gmilgram@sbch.org) or call (805) 682-7111 x82008.

## 24-HOUR CONSULTATION

*Ischemic Stroke, ICH, SAH, AVM, brain aneurysm and other neurovascular emergencies*

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(1-888-692-2563)